COALITION OF C-BAND CONSTITUENTS

December 2, 2004

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, SW
Washington, D.C. 20554

Re: ET Docket Nos. 98-153 and 02-380
Interference by UWB and Unlicensed Devices
to C-Band Earth Station Receivers – *Ex Parte* Presentation

Dear Ms. Dortch:

We are members of the Coalition of C-Band Constituents ("Coalition"), which is comprised of television program networks and distributors, broadcast networks, satellite operators and others that use C-band frequencies for numerous satellite services.[1] Coalition members provide and use satellite capacity for the distribution of news, sports, information and entertainment programming to broadcasters, multi-channel video programming distributors and ultimately to all television and radio audiences in the United States. Virtually all video programming in the United States is transmitted through C-band satellites.

We are writing to express our concern that, despite repeated demonstrations of harmful interference[2] to C-band satellite receivers resulting from predictable deployment scenarios for ultra wideband ("UWB") devices operating pursuant to the rules established in the above-referenced proceedings, there appears to be little willingness on the part of the Commission to modify the UWB rules to address these serious interference risks. If these interference risks are not addressed, we believe there will be severe disruptions to television distribution and other services that use C-band satellites.

For more than a year, the Coalition has been working to evaluate the potential interference impact that deployment of UWB devices, operating under current FCC rules, would have on C-band satellite reception. In response to the FCC's invitation in the *Memorandum Opinion and Order*[3] in this proceeding, the Coalition, in consultation with staff from the Commission's Office of Engineering Technology ("OET"), commissioned an independent

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[1] The members of the Coalition are A&E, CBS, C-SPAN, Discovery, E!, Fox Network, Fox Cable, HBO, iNDemand, Lifetime, MTV, PanAmSat, Scripps Networks, SES Americom, Showtime, Starz!, USA, Warner Bros.

[2] Harmful interference is a level of interference that "seriously degrades, obstructs or repeatedly disrupts" the operations of a communications system. *See, e.g.*, 47 C.F.R. §§ 1.907, 5.5, & 15.3(m).

[3] Revision of Part 15 of the Commission's Rules Regarding Ultra-Wideband Transmission Systems, *Memorandum Opinion and Order and Further Notice of Proposed Rulemaking*, 18 FCC Rcd 3857, 3858 (2003) ("We also hope that additional tests using commercially available UWB devices will have been completed within that timeframe (11 to 18 months)....As these steps occur, we intend to continue our review of the UWB standards to determine where additional changes warrant consideration.").

laboratory (Alion Science and Technology ("Alion")) to conduct further testing of the interference potential that UWB devices would present to C-band satellite reception. In its study, Alion took special care to address criticisms that had been raised with respect to prior studies by others on this issue, especially with respect to assumptions by others that the Commission had deemed unrealistic.

The results of the Alion analysis were submitted to the Commission in February, 2004. The Alion study concluded that, with UWB deployment in densities much less than those that are realistically predicted to occur, there will be a failure of C-band reception resulting in a loss of digital video and/or audio and serious degradation of analog video/audio services transmitted by C-band satellites. To alleviate this interference threat, the Coalition proposed two simple solutions that would not preclude the development of UWB devices: (i) require the devices to operate with reduced power if they transmit in C-band satellite reception frequencies, and (ii) if higher power is needed by UWB devices, require the devices to operate in other available frequencies, including C-band satellite uplink frequencies, where the effects of interference would be less severe. The power reduction proposed by the Coalition (21dB) should have little negative effect on UWB devices since it would apply only to 500 MHz (6.7%) of the total 7.5 GHz that are available to these types of UWB devices. Any initial loss of capability, if any, resulting from the power reduction could be recovered in later generations of UWB devices using a variety of techniques. For example, because C Band satellite uplink operations are not susceptible to UWB interference, UWB devices could be authorized to operate at power levels in excess of those currently set forth in the Part 15 rules in the 500 MHz of spectrum used by C Band satellite uplinks.

In subsequent conversations with OET staff, and in comments submitted by UWB proponents, it was widely acknowledged that the methodology of the Alion study was without fault. In fact, those who replicated the Alion study came to the same conclusions as Alion. The UWB proponents and the OET, however, again have dismissed the severity of the interference apparently by finding fault with other assumptions that Alion made – including (1) the assumption that UWB devices would be deployed as wireless connecting devices for computer peripherals and consumer electronics components[4] and (2) the assumption that UWB devices

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[4] In fact, public statements by UWB proponents clearly support the Coalition's assumption. For example, Intel CEO Craig Barrett recently demonstrated a number of new consumer devices at the Intel Developer Forum, including a "high-resolution, LCOS (liquid crystal on silicon) projection display with plug-&-play 480 Mbps short-range connectivity using USB over UWB." *Communications Daily*, Vol. 24, No. 32, at 12 (Feb. 18, 2004). In addition, Alereon has stated that it expects to use UWB for a wide variety of consumer applications, including (i) video streaming from set top box to TV, (ii) digital still or video camera download, (iii) digital camera to printer connectivity, (iv) DVD video streaming to TV, (v) MP3 file downloads, (vi) digital media player download, (vii) peripheral to computer connections (wireless USB), and (viii) ad hoc connectivity between consumer electronics devices. *See* Alereon Technology Applications, *available at* http://www.alereon.com/technology/applications.asp (last visited October 20, 2004). In view of these announcements, the density of UWB devices could be far higher than the Alion Study projected, the duty cycle for these new devices is 100 percent and the potential for interference to C-band satellite earth stations may be vastly underestimated. *See* Letter from Coalition of C-Band Constituents to Marlene H. Dortch, Secretary, Federal Communications Commission, ET Docket Nos. 98-153 and 02-380, at 2 (March 5, 2004).

would be deployed in office buildings and complexes and high rise residential buildings with windows facing the direction of earth station receivers. The OET has been conducting additional technical analysis regarding the potential level of interference using the Alion methodology but employing a different set of assumptions. Based on our discussions with OET staff and review of OET technical analyses, the underlying assumptions used by OET appear to greatly underestimate the harm that could be done by UWB device density that the Coalition has demonstrated will occur.

The very nature of unlicensed UWB devices, whose distribution and use cannot be controlled, makes it imperative that realistic deployment scenarios not be ignored in predicting interference. The simple fact is that the Alion methodology for assessing UWB interference is sound and the assumptions Alion used are realistic based on the existing C-band reception environment, the historical deployment densities of devices similar to UWB devices and the predictions of the UWB community itself.[5]

The tendency to "assume away" factors that would cause UWB devices to create unacceptable interference and employ other assumptions is not consistent with applicable administrative procedures and the sound public policy needed to ensure that major telecommunications services such as C-band satellite distribution can continue to serve millions of consumers without disruption. The Commission must address this interference issue, before UWB becomes widespread – not ignore the issue or assume it away in the hopes that it will not occur. Once UWB devices become ubiquitous consumer devices, and the interference predicted by Alion occurs, it will be impossible to correct.

For the foregoing reasons the Coalition urges the Commission to take seriously the rigorous analysis that the Coalition has submitted and the very realistic assumptions that Alion has made. If the Commission is inclined to consider studies and assumptions that are not part of the record, then it is compelled, before reaching any final conclusion, to place those studies and assumptions in the record for public comment. As the Commission reconsiders the *Memorandum Opinion and Order* in this proceeding, the Coalition submits that the Commission should modify the UWB rules in accordance with the Coalition's proposals to ensure that UWB can develop in a manner that does not seriously damage the reception of C-band satellite services.

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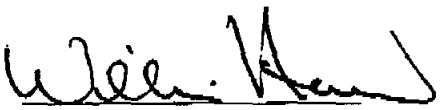
[5] Indeed, the Coalition and Alion likely understated the ubiquity of UWB devices as demonstrated in this statement be an OFDM Alliance member:

> There are more than one billion legacy wired USB connections in the world today, as USB has become the dominant interface in the personal computing industry. With UWB as the basis for wireless USB, PCs, peripherals, consumer electronics, and mobile devices will be able to connect to one another using a common interface at hundreds of megabits per second....As wireless USB begins to make inroads into the market segment for wired USB, we expect that UWB companies could ship hundreds of millions of units within a few years. Eventually, every PC, camera, printer, camcorder, flat panel television, and mobile phone could have wireless USB connections.

Press Release, Alereon (Feb. 18, 2004), *available at* www.alereon.com.

Respectfully submitted,

Coalition of C-Band Constituents



A&E TELEVISION NETWORKS

Lifetime

CBS

MTV

C-SPAN

PanAmSat

Discovery

Scripps Networks

E!

SES Americom

Fox Network

Showtime

Fox Cable

Starz!

HBO

USA

iNDemand

Warner Bros.

Respectfully submitted,

Coalition of C-Band Constituents

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Lifetime

MTV

PanAmSat

Scripps Networks

SES Americom

Showtime

Starz!

USA

Warner Bros.

Respectfully submitted,

Coalition of C-Band Constituents

A&E	Lifetime
CBS	MTV
Bruce D. Collins C-SPAN	PanAmSat
Discovery	Scripps Networks
E!	SES Americom
Fox Network	Showtime
Fox Cable	Starz!
HBO	USA
iNDemand	Warner Bros.

Respectfully submitted,

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John V. Peterman
John V. Peterman
SVP, Technology & Operations

Respectfully submitted,

Coalition of C-Band Constituents

A&E	Lifetime Gwynne McConkey, SVP Operations + IT
CBS	MTV
C-SPAN	PanAmSat
Discovery	Scripps Networks
E!	SES Americom
Fox Network	Showtime
Fox Cable	Starz!
HBO	USA
iNDemand	Warner Bros.

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iNDemand

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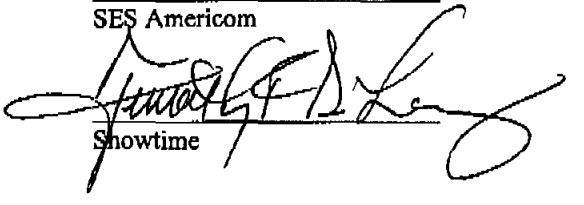

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Showtime

Starz!

/s/ F. William LeBeau
Senior Regulatory Counsel
USA

Warner Bros.

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11/29/04

Warner Bros.
Darcy Antonellis
EVP, Distribution and Technology Op's

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Commissioner Kevin J. Martin
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